

*Bowen (John T.)*  
WITH THE WRITERS COMPLIMENTS.  
MODERN THEORIES AND TREATMENT  
OF ECZEMA

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## MODERN THEORIES AND TREATMENT OF ECZEMA.<sup>1</sup>

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A GREAT diversity of opinion has prevailed among different schools and different authors from the earliest days of dermatology as to the proper conception of the term eczema, an affection that is so varied in its clinical manifestations, and so greatly influenced by many factors of both external and internal nature that to-day it is improbable that a definition satisfactory to the larger number of students of this disease could be formulated. Many writers have indeed abandoned all attempt at a strict definition, and have contented themselves with a discussion of the various clinical appearances and pathological features that are met with. Of late years much interest has been aroused by the doctrine of a parasitic causation for some of its forms, and certain authors have gone so far as to declare that every case, that is properly speaking an eczema, is of parasitic origin. My object is not an attempt to cover the whole field of the pathology of eczema, but to describe some of the later theories that have been advanced, and to point out their strength or weakness, as they appear to me.

The chief writers in their conception of eczema may be divided broadly into three classes : (1) those who consider the clinical and anatomical features as of chief importance, (2) those who lay most stress upon the course of the disease, (3) those who base their conception upon the etiology.

<sup>1</sup> Read before the Warren Club, May 7, 1895.





In the first class, those who make the *form* of the disease their criterion, belong notably Hebra and the Vienna School. Hebra's definition of eczema is, "An affection of the skin, of mostly chronic course, characterized by the formation of grouped papules and vesicles, or by more or less deeply red patches covered with scales, or weeping; or in which, in addition to these features, yellowish or green or brown crusts are formed. This affection is continually accompanied by severe itching and therefore by excoriations, and is not contagious." Hebra, therefore, regarding the anatomical features as of chief importance in the conception of eczema, cleared the air by proving that many conditions that had been regarded as independent diseases were in reality but different stages or forms of an inflammatory process that had hitherto been recognized in a much more restricted way.

To this view the Vienna School has held fast, and Neisser declares his loyalty to the old definition of Hebra, which he would enlarge only by laying greater stress on the changes in the epithelium, changes which he regards as specific, and as essential to the formation of the clinical picture of eczema.

These epithelial changes have been especially studied by Leloir, and consist in (a) the immigration of pus corpuscles into the spaces between the prickly cells; (b) an edema of the epidermis, and particularly an edema of the basal horny layer; (c) a tendency to dekeratinization, shown by the disappearance or lessening of the eleidine, and of the granular layer; (d) the persistence of the nuclei of the horny layer, which in consequence of the dekeratinizing process are no longer coherent, having lost their normal adhesive attribute, and tend to exfoliate in the form of scales. At a later stage, begins the process of vesiculation, of the formation of the elementary lesion of eczema, which has its

place usually in the middle or upper layers of the rete Malpighii. This process of vesiculation consists essentially in the formation of a clear space or cavity between the nucleus and protoplasm of the cell, and is due to a sort of dropsy of the epithelial cell. This "altération cavitaire" goes on increasing until a reticulum is formed of various sized meshes containing the nuclei. This is the vesicle or primary lesion of eczema.

Before the appearance of these epithelial alterations, however, Leloir was able, in cases of erythematous eczema, to detect a dilatation of the vessels in the papillary layer of the corium. These vessels were all dilated and filled with blood, and there was also observed a migration of the white corpuscles into the papillæ, which are filled with round cells, and also into the epidermis, where they appear as migratory cells. Besides this the papillæ were seen to be filled with an abundant serous exudation, one of the chief characteristics of eczema. This serous exudation it is, according to Leloir, that determines the epithelial alterations. Neisser, on the contrary, thinks that this is very improbable in cases of eczema not produced by external agencies. In cases of so-called artificial eczema, where the affection is obviously due to the action of an irritant acting from without, he considers that the epithelium is directly and in the first instance affected, while the inflammation may be due partly to the epithelial alteration, partly to the direct action of the irritant on the vessels. If it could be proved histologically that an artificial eczema differs from the acute stage of the chronic process in the epithelial cells being affected before there are signs of exudation, an important argument in favor of separating artificial eczemas from the chronic process would be obtained. Unfortunately, we know very little of the way in which the irritant or

agent that produces an eczema acts, and such questions may be regarded as offering a legitimate field for study, and their solution the certainty of a great advance in our knowledge. One thing, however, seems clear, that there is an epithelial alteration in eczema (that has only of late years received due recognition), a prominent feature of which is the "altération cavitaire" of the individual cells, together with a dekeratinization in the upper layers, edema of the epithelium, and the immigration of exuded cells.

That the nervous system plays an important rôle in eczema there can be little doubt. The intense itching, which causes the patient to rub and scratch the affected part, thus increasing the inflammation, is one of the most important factors in determining the course of the affection, but we are here also in the dark as to its etiology. It may be conjectured that the inflammatory infiltration in the upper layers of the corium, acts directly upon the nerve filaments, or it may be that there are definite structural alterations of the nerves themselves. Anatomical reasons for the latter view are advanced only by Colomiatti and Leloir, who have described changes in the nerve fibres in cases of chronic eczema. Leloir declares that there are certain varieties of eczema where there are undeniable lesions of the peripheral nerves, and to these he gives the name eczematous dermato-neuroses. Relying upon these anatomical changes in the nerves (which have not as yet received confirmation from other sources) Leloir and Colomiatti argue for the nervous origin of many forms of eczema, and in this they are more or less followed by Schwimmer and Bulkley. These authors looking upon eczema as (in great part) a constitutional affection, consider that it has its origin in tropho-neurotic influences proceeding from various nervous conditions, and cite in support of their view the



frequency with which these nervous affections are followed by or associated with an eczema. Besides these writers few if any have been willing to ascribe to tropho-neurotic influences more than a very speculative value, the subject of tropho-neuroses generally being so little susceptible of proof. Following Hebra and of late Neisser, it seems most rational to look upon the undeniable relationship that often exists between nervous disorders and eczema as of a vaso-motor character.

An able and instructive paper on the pathology of eczema was read by Neisser before the German Dermatological Society in 1892. He holds fast in the essence to the doctrines of Hebra, and as his paper is in accord, to a certain extent with my own views, I quote the *résumé* that he offers of the present state of our knowledge of the etiology of this disease. Neisser distinguishes (1) the primary, actual cause of eczema, (2) the predisposing agencies that pave the way for that cause, (3) the conditions which determine the chronicity of an eczema.

(1) As primary actual causes we now recognize the action of mechanical agencies: chemical substances that exert their effect from without; chemical toxic substances that exert their effect from within the economy; and micro-organisms — bacteria, fungi, and perhaps animal parasites.

(2) Predisposing agencies which increase the susceptibility of the skin for eczematous irritation. In this class are included (*a*) general conditions, as anemia, cachexias, the lymphatic diathesis, gout, diabetes, etc.; (*b*) local conditions of the skin, as seborrhea, prurigo, psoriasis, tinea tricophytina, various forms of dermatitis, etc., also abnormal conditions of the vessel's tone, as in the dentition of infants, or vaso-motor neuroses.

(3) The conditions which determine the chronicity of an eczema. This is the chief question upon which opinions and schools differ, What causes an eczema to become chronic?

In his answer to this question he separates the primary causes that directly determine the chronicity from the secondary causes that affect simply its *course*.

(1) A primary chemical or mechanical agency is not always of temporary or limited duration, but may be in continuous or frequently recurring activity.

(2) The effects of the action of chemical or mechanical agencies, perhaps of a short duration, may persist at the place of irritation in the form of tissue lesions, not perhaps apparent, but ready to show themselves if new favoring influences present themselves.

(3) There may be lesions of the cells and vessels over a greater territory than the outbreak of eczema which was confined to the part most intensely affected, would indicate.

(4) In case micro-organisms are the exciting cause both the recurrence and the dissemination are easily understood.

Secondarily, the *course* may be affected by various circumstances, such as the implantation of micro-organisms, contact with water, soap and irritating substances. The partial loss of the epithelial covering favors nervous phenomena such as itching, and the vessel walls may be badly damaged. Also irritation of contiguous parts, or from nasal and anal secretions, may affect the course. Causes that lie in the organism itself may favor the course of an eczema; not only those of external character, as defects of the circulation, varicose veins, etc., imperfections in the skin itself, as seborrhea, hyperidrosis, etc., but also internal conditions, as dentition, alimentary disturbances, uterine affections, which act in a reflex manner through the



vaso-motor system, diabetes, arthritis, kidney affections and many others.

With regard to most of these views I record myself as in agreement. As to the question of separating the acute cutaneous inflammations of eczematous type caused by the direct action of external irritants from the eczemas, I am inclined to believe with Besnier, Leloir, Brocq, White, Crocker and most authors not directly connected with the Vienna School, that this separation should be made, at least for the present. It is true, as Neisser states, that many cases of dermatitis venenata are precisely similar in their clinical aspect to the acute stage of a chronic relapsing eczema, but it is equally true that there are certain points of distinction that often make it possible for the expert to determine the etiology of the affection (as has been pointed out by White), without the aid of a history, or of the significance of the locality affected.

The artificial dermatitis has usually an acute course and yet this too may be followed by recurrent attacks of eczema without exposure to the primary cause, either *in loco* or at a distance from the first eruption. In these cases the artificial dermatitis is to be regarded as the starting-point or essential cause of the eczema, to which are added, in determining the relapses, the predisposing causes mentioned and the conditions that favor chronicity. Among the latter conditions it seems to me that much stress should properly be laid on the assumption, mentioned above by Neisser, that the primary dermatitis, whether caused by external chemical and bacteriological irritants, or by influences at present not understood, leaves, after the skin has returned to its natural color and consistency, "damaged cells" or "irritable vessels," so that causes that would be innocuous to a healthy skin are sufficient to give rise to an attack of eczema. Otherwise, it is difficult

to explain the predisposition that exists in apparently healthy subjects to recurrent attacks of eczema when once an acute dermatitis has been experienced.

The artificial dermatitises form a well-defined group, both from their etiology and from the clinical appearances in some instances, although no evidence of their histological divergence from the type of acute eczema has yet been presented. For the present at least they should be grouped by themselves, although considered as belonging to the class of eczematous affections. For I agree with Török and Brocq that in the present state of our knowledge we should look upon the eczemas as a group or class, although I am in no sense prepared to accept Brocq's subdivisions. But, in fact, is Neisser so far away from the views of those who would separate artificial dermatitis from eczema, when he divides the eczema class as follows: (1) *eczema acutum circumscriptum*, produced by various external causes, to which are to be added the acute eczemas that may be of parasitic origin; (2) *eczematosi*s, in order to give a name to the eruptions that recur continually in an acute or subacute form; (3) the localized chronic eczema?

It is only, it seems to me, by viewing the process in a broad way that we are likely to obtain further truth as to the etiology. Attempts have therefore been made to separate from the group of eczemas, individual processes; and it is along these lines that we may look for the advances of the future. Naturally, much difference of opinion exists as to the right of various forms to be excluded from the eczema group. *Eczema marginatum*, the form found chiefly upon the thigh and scrotum, and distinguished by circinate patches with bright red advancing borders and scaling centres, is certainly to be distinguished from the eczemas.

I agree with Neisser and Besnier that what has been

described by the name *eczema marginatum* comprises a variety of processes etiologically distinct, in some instances being caused by the *trichophyton tonsurans*, in others by the *microsporon minutissimum*, the affection called *erythrasma*, while in others it is in all probability due to a variety of micro-organisms. It may often be determined by the microscope which of these causes is active. As Neisser points out, it may be difficult to say in a given case whether the eczematous inflammation be primary or secondary, whether the parasites are engrafted upon a pre-existing eczematous inflammation, or are themselves the cause of it; but in either event, as it has been proved that this class as formerly constituted comprises several entirely distinct cutaneous affections, the name of *eczema* should only be retained for the convenience of mutual understanding, until further study, for which there is a fruitful field, has succeeded in dividing the group into its individual elements.

A word as to the different forms, classed by the Vienna School under *eczema*, which the French consider as independent affections under the name of *lichen*. The *lichen simplex chronique* of Vidal is the only one of these affections that seems to possess any distinct claims to a separate position. The pathognomonic features of *lichen simplex chronique* as given by Brocq are the nervous state or temperament of the subjects affected, the fact that *pruritus* antedates the eruption, the circumscribed character of the eruption in plaques, its absolute dryness and its chronic rebellious course with tendency to recurrences. It is true that in many cases this form bears a closer resemblance to *lichen planus* in clinical features, course, and reaction to treatment than it does to *eczema*. I am not willing, however, to consider its claims to independence as satisfactory, but still it seems to me that



this class of cases should be carefully grouped together for further study. The form described by Malcolm Morris under the name of *eczema follicularis*, which consists of sharply bounded plaques, made up of small red, firm papules situated exclusively about the follicles, often covered with a small scale penetrating the follicle, is regarded by Neisser and Jadassohn as entitled to a place apart from the *eczemas*, and this view is borne out by the microscopical studies of Jadassohn. Whether their interpretation will be confirmed and accepted, it is as yet too early to predict.

Under *impetigo* we now understand a vesicular, bullous and pustular eruption, in which the final stage of crusting is most apparent, caused by the action of micro-organisms of various kinds, chiefly those of pus, upon the skin, and often associated with an *eczematous* inflammation. The so-called *impetiginous eczemas* are complications of *eczema* with *impetigo*; it may be impossible in a given case to say whether the pus micro-organisms were implanted upon a previously inflamed territory, or whether the *eczema* was a secondary process. *Impetigo* is therefore contagious, and produced by local inoculation. *Impetigo contagiosa* is the name that was used before its etiology was known, and under which it is now placed by many writers.

#### ECZEMA SEBORRHOICUM (UNNA).

Unna has emancipated himself fully from the pre-existent theories, which regard *eczema* from an anatomical and clinical standpoint, and bases his conception of the disease upon purely etiological principles. He defines *eczema* as a chronic parasitic catarrh of the skin, accompanied by desquamation, itching, and a tendency to respond to irritation with exudation and pronounced inflammation. His posi-

tion was first defined in 1887, and it may be of interest to examine briefly his theories and to note in how far they have been accepted by other dermatologists. His conception of seborrhea had been previously made known. He regards the oily seborrhea (seborrhea-oleosa) as caused by a hypersecretion of fat poured out from the sweat-glands. The dry seborrheas he would drop entirely from this class, regarding them as chronic inflammatory processes of the skin accompanied by an abnormal amount of fatty matter, which is produced by a hypersecretion of the sweat-glands, and not of the sebaceous glands. This fatty matter he declares is not situated in the scales alone but penetrates the epidermis and corium as in no other known disease. The dry seborrheas are, therefore, according to Unna, examples of seborrheal eczema. The starting-point of almost all seborrheal eczemas is the scalp, where it may exist for years without causing especial notice. The pityriasis capitis which leads to alopecia, and which is identical with seborrhea capitis, comes under this heading, and is Unna's first form of eczema seborrhoicum.

In his second class of cases the scaliness increases and fatty crusts are formed between the hairs, and a corona seborrhoica is formed at the margin of the forehead. Later it may extend to the temples and neck, to the region of the nose and cheeks, etc. This is the so-called *crusty form*.

The third form is classed as the *moist* variety, and in this weeping occurs and the rete may be laid bare. In the sternal region the crusty form is the one usually seen, rarely the scaly and moist. It takes on here a circinate and marginate appearance, with a red border and yellow, greasy centre. From the shoulders the affection spreads downward on the arms, usually in the crusty form, seldom in the moist, and has

a marked predilection for the flexor surfaces and for surfaces in contact with one another.

The three forms are often found existing at the same time on different localities. In 1889 Unna, after studying the histology of this form, declared that the pathognomonic feature was an alteration of the epithelial layers, beginning in the lowest prickle cells and continued upward to the horny cells, of a purely edematous nature. In 1892 he made known his discovery of the morococcus, a form of diplococcus that is distinguished by its formation into clusters of a mulberry shape, which will produce characteristic lesions when inoculated in pure culture upon a healthy skin, and which he considers the cause of eczema seborrhoicum.

To what extent have Unna's views of eczema seborrhoicum been accepted?

Besnier considers that there is a complication of eczema with seborrhea, an affection which he had before noted but never properly formulated; that it is impossible to say as does Unna that the inflammation is primary and the seborrhea secondary. He does not further agree with him that the sebaceous glands take no part in the process, believing that both sebaceous and sweat glands are active. He thinks a parasite is probably the causative agent, and that the steatorrhea is probably one of the essential causes in the production of the eczema.

Leloir and Vidal, while apparently accepting Unna's views in great part, declare that the individuals with whom seborrhea is constitutional, often even hereditary, are the ones who are most apt to be affected with seborrheic eczema. In these subjects, psoriasis, pityriasis rosea, etc., may take on a seborrheic appearance. Their microscopical studies confirm in the main the researches of Unna. They add, however, that



further investigations both clinical, bacteriological and histological, are necessary to clear up the true nature of the affection or affections, classed by him as seborrheic eczema.

Crocker thinks that it is proper to retain the old name and conception of seborrhea, inasmuch as this affection, though often accompanied by inflammation, may be entirely wanting in all inflammatory appearances. He thinks it probable that seborrhea is an affection caused by micro organisms. To the cases where clinical signs of inflammation are present he would give the name seborrheic dermatitis; and this he divides into seborrhea eczemaformis, seborrhea psoriasiformis and seborrhea papulosa seu lichenoides, which latter is identical with seborrhea corporis, lichen circinatus, etc.

Elliot thinks that the process is so different clinically from what has hitherto been called eczema that the name should be discarded, and that Crocker's name of seborrheic dermatitis, given to one phase of the disease, is suitable for the whole affection, which he considers a parasitic dermatitis. His histological examinations varied from those of Unna in not showing fat present in the coils or ducts of the sweat-glands, nor a fatty infiltration in the corium and rete, nor does he think that the fatty hypersecretion is derived from the sweat-glands.

Török cannot admit a relationship of the scaling to the crusty and moist forms, nor to eczema-generally. The crusty form he would separate entirely from the eczemas and class as a mycosis, while the third or moist form is in his eyes a mixed affection. He is unable to accept the morococcus as the cause of seborrheic eczema, as Unna's inoculation experiments do not prove that the morococcus is not simply a producer of an impetiginous complication.

Neisser's *résumé* of eczema seborrhoicum is that Unna's first or scaling form is not an eczema, but remains a primary affection of the fat-secreting glands, with minimal secondary inflammatory manifestations. His second or crusting form is also not an eczema but an affection allied to psoriasis (from which it may often be almost impossible to differentiate it), almost always dry, with a slight inflammatory infiltration. It is probably of parasitic origin and is connected with seborrheal alteration of the skin. His third or moist form is eczematous and parasitic without doubt. It is usually connected with seborrheal alterations of the skin, so that it is impossible at present to decide which factor is most important and should determine the name. It is possible that the second and third forms are forms of the same mycosis.

Taking the opinions that have been cited, and including besides the views of those who have written or spoken at lesser length on the subject, it may be said that Unna's theory has by no means met with general acceptance among experts. Much confusion has, in my opinion, been introduced by the name seborrheic eczema, and much prejudice has in that way been excited against Unna's whole position. If we examine carefully the evidence that he has adduced in support of his theory that there is no such thing as a hypersecretion of the products of the sebaceous glands which causes an accumulation of fatty masses upon the skin, we find that he has by no means proved his case. The histological studies of Unna, Leloir and Elliot fail to confirm the view that the sweat-glands alone are concerned in the hypersecretion of fat, nor do they show any specific changes in the case of seborrheic eczema, as is pointed out by Neisser. I believe that undue weight has been laid upon the pathological significance of the association of eczema and sebor-

rhea. Unna's first or scaly form certainly belongs, with our present knowledge, among the seborrheas, even if it is possible to detect some evidences of inflammation histologically. As Besnier and Neisser say, it is impossible to assert, as does Unna, that the inflammation is primary and the hypersecretion secondary. Until further evidence can be brought we must believe that the sebaceous glands have a part in the hypersecretion of the fatty products.

The second or crusting form should also be separated from the eczemas, as it has been hitherto, under the name of lichen circinatus, seborrhea corporis, etc. Its association with seborrheic affections of the scalp, and the fatty hypersecretion that is unquestionably present, warrant its retention provisionally among the seborrheas, until its etiology has been explained. It may be associated or complicated with various degrees of eczematous inflammation. Its parasitic nature seems highly probable, but is as yet unproved. Its similarity to psoriasis has been pointed out, and the difficulty that often confronts one in differentiating the two affections. Whether in these cases there is a psoriasis modified by its implantation on seborrheal soil, or whether, as Brocq believes, there is a group of affections, intermediate between eczema and psoriasis, which are developed especially on seborrheal subjects and which deserve a separate name — these are questions that may fairly occupy the attention of future investigators.

Unna's third or moist form I would regard as a dermatitis combined usually with seborrheal alterations. It is very difficult to determine the relative importance of the inflammation and hypersecretion. Its parasitic nature seems probable, but as the *morococcus* has not yet been accepted as the causative agent, nothing definite is known. It deserves a separate place among



the class of eczemas, on account of its serpiginous and circinate form, its association with seborrhea, its progress from above downward and its probable parasitic nature. Unna has rendered a service chiefly in calling attention to the combination of clinical appearances that characterizes the third form and its possible etiological relationship to the second form.

A tuberculous eczema, such as Unna calls the eczema localized about the eyes, nose, mouth and ears in children and attended with rhinitis, phlyctenular keratitis and otorrhea, is not accepted in this sense by any of the authorities, so far as I am aware. No proof exists that tubercle bacilli can cause an eczema simply, and if the characteristic new formation is present, we have a tuberculosis, and an eczema only as a complication.

#### TREATMENT.

Turning now to the treatment of eczema, it is my purpose to pass in review the chief methods that have been introduced or advocated during later years. At the outset it may be said that most of these methods depend for their efficacy upon the consistency of the preparations recommended, their power of adhesion to the skin or their mode of application. No specific has been discovered and few new drugs have been added to our store of internal remedies.

Arsenic is never used as a routine treatment, and never in the acute stages. It is reserved for the chronic, unyielding varieties, and even here its use has been much curtailed. A variety of drugs are used internally, according to the general indications of the individual case, but no new remedies of much value have been introduced. Ergot, phosphorus and antimony have their advocates, but their specific influence on the disease is far from proved.

In the treatment of the acute forms our attention should be directed to the use of remedies to protect the inflamed surface from the outer air, to absorb the secretions and to limit their formation, and to lessen the itching which in many cases is intolerable.

One of the most useful principles that has been introduced during the last fifteen years is that of substituting, especially in the more or less acute forms, variously compounded pastes for the ointments that had previously been relied on. Hebra's method was to spread the ointment or liniment upon lint or cotton and have it worn continually. The good results of this procedure were due in the main to the absolute sealing up of the inflamed surface from the outer air and to the removal of the products of the inflammation. But as fats are an important constituent of all liniments and ointments, it is found that irritation is frequently caused by the splitting up of these fats into fat acids and glycerine, under the influence of the secretions with which they are brought in contact. This irritative property varies apparently much in different cases, owing both to the individual susceptibility and to the grade of the inflammation. It is to be ascribed both to the action of the fat acids and to the glycerine probably, as both of these substances are often of an irritating nature. These drawbacks are obviated by the use of preparations composed of indifferent or astringent powders mixed with vaseline in such proportions that a smooth, thick paste is formed, admirably suited for the absorption of the products of inflammation and for protection from the outer air. Chief among these is the well-known Lassar's paste, composed of equal parts of oxide of zinc and starch in double the quantity of vaseline. Its advantages as claimed have been substantiated by experience. Some of these are that it does not liquefy at the ordinary

temperature of the skin, but dries on quickly and can be retained even in very hot weather by sprinkling on a little powder. It can be applied to very small patches, and adapts itself to all parts of the body. Hairy portions of the body are the only ones to which it is not suited, as the hairs become matted together from the solid constituents. It is found in practice that patients who are unable to endure the application of any ointment without violent reaction, bear this preparation with ease, and even where vaseline alone is not borne, the mixture with zinc and starch may suit well.

At the time this paste was first spoken of Lassar believed that salicylic acid was almost a specific for eczema, and he therefore combined it with his paste in the following formula:

Acid. salicyl.	. . . . .	2.0
Vaselin.	. . . . .	50.0
Zinc oxid. }	. . . . .	āā, 25.0 M.
Amyl. }	. . . . .	

This paste should be spread over the inflamed and oozing region in a thick layer, and may afterward be covered with a thin layer of absorbent cotton. The dressing is changed once or twice daily if the secretion is considerable; if not, it may be left in position for several days oftentimes. By means of this paste alone many cases may be completely healed without having recourse to more stimulating remedies in the later stages. The salicylic acid is of no practical use in acute forms, and although a small percentage is rarely irritating, it is best left out. The chief action of salicylic acid cutaneously is of a keratolytic character—that is, it has the property more than any drug known of softening and dissolving the horny layer, without at the same time causing a dermatitis. In the later stages of eczema, where there is infiltra-

tion in the corium and hypertrophy of the horny layer, the addition of the salicylic acid to the paste is indicated, even in much greater proportions than in the above formula.

Salicylic ointments in the treatment of infantile eczema have been much praised. Taking this paste as a base, various medicaments, such as sulphur, ichthyol, boracic acid, etc., may be incorporated with it, and in some instances a more favorable effect obtained than when the drug is mixed with animal fats or with vaseline simply.

Many attempts have been made to produce preparations that when dried upon the skin will form firm but flexible thin coatings, exerting a certain amount of pressure, protecting equally from the irritation of the outer air and from the entrance of micro-organisms, to which various medicaments of known value in eczema may be added. Pick introduced gelatine dressings, which he at first used in combination with chrysarobin in the treatment of psoriasis, and to these Unna and Beiersdorf proposed to add a percentage of glycerine. Later Pick brought forward a sublimate gelatine dressing which he recommends both for the earlier erythematous and papular stages, and for the thickened, scaling varieties. Thirty grams of glycerine are mixed with sufficient water, macerated for several hours, then liquefied on the water bath and evaporated to 75 grams. To this are added 25 grams of glycerine and 0.05 grams of corrosive sublimate. This gelatine dressing is liquefied by heat when used, and a thin coating is painted over the affected part. In chronic eczemas of the lower leg especially, this preparation has often proved itself of value.

Acting upon the principles of the gelatine dressing, and in the endeavor to obtain a preparation that would offer all its advantages without its disadvantages,



notably that of being obliged to heat the preparation each time before applying it, Pick introduced tragacanth, and Elliot proposed bassorin as a base for incorporating medicaments, preparations which, like gelatine, are useful in certain forms of eczema as well as in a variety of cutaneous affections. Unna, working upon the same lines, introduced ichthyol varnish, a mixture of ichthyol in various proportions with starch, solutions of albumin, etc. An almost endless variety of substances may be obtained in this way which form protective coatings upon the skin. Their use is limited, however, as it has not been shown that they are superior to other methods, and in many instances their inferiority is distinctly apparent. In certain cases, however, they are a useful addition to our resources.

Much greater practical value must be accorded to the salicylic soap-plaster recommended by Pick for the vesicular and moist as well as the thickened forms of eczema. Its advantages in my experience are far greater in the latter class of cases. Its composition is as follows:

Emplastr. saponat. liquefact.	.	.	.	.	.	80.0
Olei olivar.	.	.	.	.	.	20.0
Acid. salicyl.	.	.	.	.	.	2.5 M.

The plaster is spread, and cut into strips which are firmly adapted to the affected parts and left in position for several days. Its great advantage is that it is not necessary to change it frequently.

A real value must be admitted for ichthyol and resorcin, which belong, according to Unna, to the group of reducing agents, and owe their therapeutic action to this property. Ichthyol as used is really a sulphoichthyolate of ammonium which is obtained from a bituminous substance found in the Tyrol. Its

efficacy is probably due in part to the large percentage of sulphur it contains, and in part to its consistency, as it readily forms a sort of protecting and adhesive varnish when applied to the skin. Unna considers it of special efficacy in the so-called nervous eczemas and in intertriginous affections. It may be used in solution with water in various proportions, in a thick varnish, mixed with albumin or starch or in ointment form. On moist patches an emulsion with water of the strength of one to ten, or one to twenty, is often of service, especially when followed by a soothing ointment or paste. It may also be incorporated with the various pastes, varnishes and gelatine preparations that have been described. The objections to its use are its color and disagreeable odor. Thiol has the advantage of being odorless, and has seemed to me in many cases an efficient substitute for ichthyol.

Resorcin, which is of much value in many cutaneous affections, has but a small place in the treatment of eczema. In certain scaling forms it may be used with advantage, but its irritating properties, especially in certain individuals, limit its range of usefulness in this affection.

Much prominence has also been given by Unna to his treatment by ointment and plaster muslins, a system that has no doubt its advantages, but which should not be looked upon as superseding other equally good, and in certain cases superior methods. The ointment muslins are made by impregnating muslins on one or both sides with the ointment wished for. The muslins thus prepared are cut into strips, applied to the skin and bound down by muslin bandages. It is often of advantage to spread the ointment or pastes that we wish to use on muslin, and ready-made applications of the sort are often convenient,

but it is difficult to see how the method, so minutely elaborated, contains any new principle or offers any especial therapeutic advance.

The plaster muslins are made by spreading the drug to be used upon a thin layer of gutta-percha backed with muslin. The advantage claimed for this kind of plaster is that a larger percentage of the medicament is brought into contact with the skin, the amount of adhesive substance needed being so much smaller. In eczemas these plasters have been recommended for the treatment of the chronic infiltrated patches, and are often of much service when combined with white precipitate, salicylic acid, etc. Their usefulness is far greater in tuberculosis and in chronic processes with hypertrophy of the horny layer than in eczema.

Lassar's method of treating eczema, even in the acute stage, by means of baths may be mentioned, active remedies such as tar, chrysarobin, etc., being borne while in the bath without irritation. This method was supplemented by the use of ointments, pastes, etc., in the intervals when the patients were not in the bath.

In conclusion, it may be repeated that the writer's intention was merely to touch upon some of the methods of treatment that have been suggested of late years. The older, and in many cases more reliable, methods have not been mentioned. It is to be remembered that there is as yet no specific for eczema. That the regulation of the diet, attention to hygiene, and the removal of any conditions unfavorable to the general health, are of very great importance. Internal remedies are often of great aid, especially in the so-called nervous forms; and success depends in this class of cases more upon the general management of the patient's life, and upon moral influence and support, than upon topical applications.







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